Endocrinology and Rheumatology System

1. A young patient presents with dysphagia, particularly more for liquids than solids. He frequently regurgitates food, especially at night. Radiographic imaging reveals a rat-tailed appearance. What is the most likely diagnosis?

A. Achalasia cardia
B. CA oesophagus
C. Zenker's diverticulum
D. Diffuse esophageal spasm

Explanation:
Achalasia cardia presents with difficulty swallowing liquids more than solids and nocturnal regurgitation. The "rat-tail" appearance on radiography is a classic sign of this condition, caused by the narrowing of the lower esophageal sphincter.
Key: A

2. A 70-year-old man complains of pain and stiffness in both shoulders. He also reports a history of weight loss. Upon investigation, his ESR is 100 mm in the first hour, he has normocytic normochromic anemia, and a positive RA factor. What is the most likely diagnosis?

A. Polymyositis
B. Polyarteritis nodosa
C. Polymyalgia Rheumatica
D. Rheumatoid arthritis

Explanation:
Polymyalgia Rheumatica is characterized by pain and stiffness in the shoulders, elevated ESR, and normocytic normochromic anemia, particularly in older adults. The combination of these symptoms strongly suggests PMR as the diagnosis..
Key: C

3. A 25-year-old female presents with serous otitis media in the left ear, cough, occasional hemoptysis, hematuria, and epistaxis for one and a half months. Her hemoglobin level is 7 g/dL, blood pressure is >170/100 mmHg, and she has proteinuria (+++), positive rheumatoid factor (RA), and is ANCA positive. What is the most likely diagnosis?

A. Wegener's Granulomatosis
B. Rheumatoid arthritis
C. Rapidly proliferative glomerulonephritis
D. Goodpasture's syndrome

Explanation:
Wegener's Granulomatosis is characterized by multisystem involvement, including respiratory symptoms, renal issues, and a positive ANCA test, making it the most likely diagnosis in this case.
Key: A

4. A 32-year-old homosexual male presents with painful swelling of the right knee joint for the past week, accompanied by oral ulcers and redness of the eyes. His HIV test from three weeks ago was negative.
Which of the following is the most likely diagnosis?

A. Rheumatoid arthritis
B. Reactive arthritis
C. Systemic lupus erythematosus
D. Psoriasis

Explanation:
Reactive arthritis is often triggered by an infection and presents with symptoms such as joint swelling, eye redness, and oral ulcers. The patient's combination of knee pain, conjunctivitis, and oral ulcers is typical of this condition. Despite a negative HIV test, his symptoms align with the diagnosis of reactive arthritis.
Key: B

5. A 55-year-old woman with rheumatoid arthritis presents with several neurological signs. Which one of the following is commonly associated with rheumatoid arthritis?

A. Absence seizure
B. Generalized seizure
C. Mononeuritis multiplex
D. Optic neuritis

Explanation:
Mononeuritis multiplex is a common neurological complication of rheumatoid arthritis. It involves the inflammation of multiple peripheral nerves, leading to symptoms like pain, weakness, and sensory changes.
Key: C

6. A 45-year-old patient presents with proximal muscle weakness, particularly in the lower limbs. She has a heliotropic rash around the eyes and Gottron's papules. Which one of the following antibodies is most strongly associated with this condition?

A. Anti-DNA
B. Anti-Jo-1
C. Rheumatoid factor
D. Anti-Scl-70

Explanation:
Anti-Jo-1 antibodies are strongly associated with dermatomyositis, which is characterized by proximal muscle weakness, a heliotropic rash, and Gottron's papules. These antibodies are markers of the condition and are commonly found in patients with this presentation.
Key: B

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7. Which of the following rheumatological diseases is associated with a high risk of lymphoma?

A. Rheumatoid arthritis
B. Ankylosing spondylitis
C. Systemic lupus erythematosus
D. Sjögren's syndrome

Explanation:
Sjögren's syndrome is associated with a significantly increased risk of lymphoma, particularly non-Hodgkin's lymphomA. This autoimmune disease leads to chronic inflammation, which can trigger the development of lymphoproliferative disorders, making lymphoma a notable complication of Sjögren's syndrome
Key: D

8. A young woman with a known history of type 1 diabetes mellitus, currently not taking any medication for her diabetes, presents with complaints of abdominal pain, vomiting, and loss of consciousness. On examination, she is dehydrated, and her blood sugar is 560 mg/dL. Which of the following tests would you perform to reach a definitive diagnosis?

A. Chest X-ray
B. Urinary & serum ketones
C. CT scan brain
D. Ultrasound abdomen

Explanation:
The presence of abdominal pain, vomiting, high blood sugar, and dehydration in a patient with type 1 diabetes suggests diabetic ketoacidosis (DKA). Measuring urinary and serum ketones is crucial for confirming DKA, as it is characterized by elevated ketone levels due to insulin deficiency and subsequent fat breakdown.
Key: B

9. A university student is brought to the emergency room by her roommate. She is unconscious and sweating. Her roommate reports that the patient is a known case of type 1 diabetes mellitus and is on insulin therapy, but has not taken it for the last 7 days. She has developed excessive vomiting, abdominal pain, and loss of consciousness. On examination, she is dehydrateD. Her blood sugar is 500 mg/dL, and her potassium level is 7 mEq/L. Which immediate step would you take to confirm the diagnosis?

A. Pass a nasogastric tube
B. Send urinary ketones
C. Pass a urinary catheter
D. Give fluids

Explanation:
Given the patient's history and symptoms, diabetic ketoacidosis (DKA. is highly suspected. The is to send a test for urinary ketones, as DKA is characterized by hyperglycemia, ketosis, and acidosis. Detecting ketones in the urine would confirm the diagnosis.
Key: B

10. A 30-year-old woman presents with a 4-month history of low-grade fever and arthritis, without joint deformity. On examination, she has photosensitivity and mouth ulcers. Her serum ANA is positive, and her platelet count is 60,000/cmm. What is the most likely diagnosis?

A. Rheumatoid arthritis
B. Psoriasis with arthritis
C. Reiter's disease
D. Systemic lupus erythematosus

Explanation:
Systemic lupus erythematosus (SLE) is the most likely diagnosis given the combination of arthritis, photosensitivity, mouth ulcers, positive ANA, and thrombocytopenia (low platelet count).
Key: D

11. A 70-year-old man is evaluated in the emergency department for acute swelling, severe pain, and warmth of the right knee that woke him from sleep. He does not recall any injury to the knee. Three months ago, he had an acutely swollen great toe that improved within 3 days without treatment. His history includes hypertension and diabetes mellitus. His medications are hydrochlorothiazide and metformin. The right knee is warm and swollen without overlying erythema; there is tenderness to palpation and a decreased range of motion due to pain. Examination of the other joints is unremarkable. What is the most appropriate next step in management?

A. Obtain a knee MRI
B. Obtain a serum urate level
C. Perform joint aspiration
D. Start empiric colchicine

Explanation:
Performing joint aspiration is the most appropriate next step to evaluate the cause of the acute knee swelling and pain. Joint aspiration allows for the analysis of synovial fluid to diagnose conditions like gout, septic arthritis, or other inflammatory arthritides.
Key: C

12. A 34-year-old man is evaluated for a 1-year history of low back pain. The pain frequently spreads to the buttocks but does not radiate to the legs. It worsens in the morning and is associated with stiffness that improves after 2 hours of starting work. Symptoms are worst at the end of the day and during the night. He takes ibuprofen

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with good relief. He has no other joint pain, rash, diarrhea, or dysuriA. There is mild pain with normal range of motion in the lumbar spine and tenderness over the buttock. Laboratory studies show an erythrocyte sedimentation rate of 40 mm/h, and HLA-B27 testing is positive. What is the most likely diagnosis?

A. Ankylosing spondylitis
B. Lumbar degenerative disk disease
C. Psoriatic arthritis
D. Reactive arthritis

Explanation:
Ankylosing spondylitis is characterized by back pain and stiffness that worsens in the morning and improves with activity. Positive HLA-B27 and elevated ESR further support this diagnosis, distinguishing it from other conditions.
Key: A

13. A 35-year-old woman with a history of systemic lupus erythematosus (SLE) presents with fever, arthralgias, and oral ulceration. She is currently on low-dose prednisolone and hydroxychloroquine. Which of the following will help confirm an exacerbation of SLE?

A. Serum ANA titers
B. Serum anti-dsDNA titers
C. Serum complement levels
D. ESR

Explanation:
Serum anti-dsDNA titers are specifically associated with SLE disease activity and flare-ups. Elevated levels of these antibodies typically correlate with active disease, making them useful in confirming an exacerbation of SLE.
Key: B

14. A 45-year-old man with a known history of gout undergoes synovial fluid aspiration. Which of the following is most likely to be present in the synovial fluid?

A. Monosodium urate crystals
B. Oxalate crystals
C. Calcium carbonate crystals
D. Negatively birefringent monosodium urate crystals

Explanation:
In gout, synovial fluid typically contains monosodium urate crystals. These crystals exhibit a characteristic negative birefringence under polarized light microscopy, which helps in confirming the diagnosis of gout.
Key: A

15. A 47-year-old female is referred to a rheumatology clinic due to cold fingers. Which connective tissue disease is most strongly associated with Raynaud's phenomenon?

A. SLE
B. Rheumatoid arthritis
C. Systemic sclerosis
D. Polyarteritis nodosa

Explanation:
Raynaud's phenomenon is most strongly associated with systemic sclerosis (scleroderma). This condition frequently presents with severe Raynaud's symptoms due to vascular changes and is a hallmark feature of the disease.
*Although Raynaud phenomenon has been described with various autoimmune diseases, the most common association is withprogressive systemic sclerosis (90% in individuals with sclerodermA. and mixed connective-tissue disease (85% prevalence).
Key: C

16. A 34-year-old woman presents with pain and swelling in the small joints of both hands, along with early morning stiffness lasting one hour. Physical examination reveals synovitis of the proximal interphalangeal joints of both hands and mild renal function derangement. She also experienced sudden onset swelling of the right calf muscle after her first delivery, which was diagnosed as deep vein thrombosis (DVT). What is the most likely diagnosis?

A. Mixed connective tissue disease
B. Polymyalgia rheumatica
C. Rheumatoid arthritis
D. SLE

Explanation:
The patient's symptoms of pain, swelling in small joints, early morning stiffness, and the presence of synovitis are characteristic of rheumatoid arthritis. The history of DVT is not uncommon in rheumatoid arthritis patients, possibly due to chronic inflammation and increased risk of thromboembolic events.
Key: C

17. A 29-year-old man presents with anxiety and fine tremors. Examination of his eyes is unremarkable. Laboratory results show Free T4 at 28 pmol/L, Free T3 at 13.8 pmol/L, and TSH <0.05. What is the most likely diagnosis?

A. Toxic multinodular goiter
B. Hashimoto's thyroiditis
C. De Quervain's thyroiditis
D. Graves' disease

Explanation:
Graves' disease is characterized by elevated levels of Free T4 and Free T3, with suppressed TSH, and is often

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associated with symptoms of hyperthyroidism such as anxiety and tremors. The absence of eye abnormalities does not rule out Graves' disease, as not all patients exhibit ocular symptoms.

Key: D

18. A 19-year-old is admitted for re-feeding due to anorexia nervosa. She deteriorates just hours after starting the feed, with muscle weakness (3/5 in both lower limbs and 4/5 in upper limbs) and complaints of shortness of breath. Her vitals remain normal throughout. Which of the following is the most likely cause?

A. Hyperkalemia
B. Hypocalcemia
C. Hypomagnesemia
D. Hypophosphatemia

Explanation:

Hypophosphatemia is a common complication of re-feeding syndrome and can lead to muscle weakness, respiratory difficulties, and other symptoms due to phosphate depletion. This condition typically arises during the re-feeding process in individuals with anorexia nervosa, making it the most likely cause in this scenario.

Key: D

19. A 36-year-old woman recently diagnosed with Graves' disease presents for review after 3 months on carbimazole. Which of the following is most appropriate to titrate the dosage of carbimazole?

A. Serum total T4 levels
B. Serum free T4 levels
C. Serum T3 levels
D. Serum TSH levels

Explanation:

Serum TSH levels are the most appropriate marker to titrate the dosage of carbimazole. In patients with Graves' disease, TSH levels reflect the adequacy of treatment, as they should normalize with effective therapy. Monitoring TSH helps to adjust the dosage of carbimazole to achieve euthyroidism

Key: D

20. A 48-year-old man underwent a routine checkup. His fasting glucose is 6.1 mmol/L, and his weight is 84 kg. His BMI is not specified. Which of the following is the most appropriate advice?

A. Weight reduction and diet modification
B. Oral metformin
C. Oral glimepiride
D. SC insulin

Explanation:

For a fasting glucose level of 6.1 mmol/L, which is considered prediabetes, the most appropriate initial intervention is lifestyle modification, including weight reduction and dietary changes. These measures can help manage and potentially reverse the condition before considering medication.

*For people without diabetes, the normal range for the hemoglobin A1c level is between 4% and 5.6%. Hemoglobin A1c levels between 5.7% and 6.4% mean you have prediabetes and a higher chance of getting diabetes. Levels of 6.5% or higher mean you have diabetes.

Key: A

21. A 28-year-old female is referred to outpatients with a tender swelling in her neck. She complains of excessive sweating and palpitations. Blood results are as follows:TSH: 0.5T4: 198 mmol/LCRP: 45 mg/dL (Normal: < 6 mg/dL)ESR: 70 mm/hrA technetium thyroid scan shows decreased uptake globally. What is the most likely diagnosis?

A. Sick thyroid syndrome
B. Acute bacterial thyroiditis
C. Hashimoto's thyroiditis
D. Subacute thyroiditis

Explanation:

Subacute thyroiditis is indicated by a tender thyroid, elevated inflammatory markers (CRP, ESR), and decreased thyroid uptake on the scan. These findings, along with symptoms of hyperthyroidism, make it the most likely diagnosis.

Key: D

22. A 22-year-old soldier was referred after his blood sugars were found to be elevateD. His father and two maternal aunts were also diagnosed with diabetes in their twenties. After necessary investigations, he was started on sulfonylureas. Which of the following statements regarding Maturity-onset diabetes of the young (MO"Y) is true?

A. There is usually a strong family history
B. Body mass index is typically <32
C. Doesn't respond to glimepiride
D. Autosomal recessive pattern of inheritance

Explanation:

Maturity-onset diabetes of the young (MODY) is a monogenic form of diabetes with a strong family history, typically inherited in an autosomal dominant pattern. It usually presents in individuals under 25 years old and often responds well to sulfonylureas like glimepiride.

Key: A

23. A 48-year-old female is being investigated for weight gain and hypertension. She has not been feeling well for the past 3 months and complains of facial hair growth, depression, increased abdominal girth, and reduced libido. Her current blood pressure is

180/97 mmHg. Which of the following tests is most likely to be diagnostic of her condition?

A. 24-hour urinary free cortisol
B. High-dose dexamethasone suppression test
C. Renin-aldosterone level
D. Overnight dexamethasone suppression test

Explanation:
The 24-hour urinary free cortisol test is the most appropriate initial test to diagnose Cushing's syndrome, which is suggested by the patient's symptoms such as weight gain, hypertension, and facial hair growth. This test accurately measures cortisol levels over a full day, helping confirm excess cortisol production.
Key: A

24. A 35-year-old African gentleman is being evaluated for hypertension. He is a nonsmoker with a BMI of 25. His resting blood pressure is 155/105 mmHg. Systemic examination is normal. Which of the following is the most appropriate drug to commence?

A. Amlodipine
B. Atenolol
C. Captopril
D. Prazosin

Explanation:
Amlodipine, a calcium channel blocker, is recommended as the first-line treatment for hypertension in individuals of African descent. This population often responds better to calcium channel blockers compared to other classes of antihypertensive drugs, such as ACE inhibitors or beta-blockers, due to differences in the underlying pathophysiology of hypertension
Key: A

25. A 56-year-old woman with stage 4 chronic kidney disease (CKD, secondary to IgA nephropathy reports for a follow-up in the nephrology outpatient department. Her recent lab results are as follows:PTH: 22.01 pmol/LAdjusted calcium: 2.96 mmol/L
Which endocrine abnormality is she most likely to be having?

A. Tertiary hyperparathyroidism
B. Pseudohypoparathyroidism
C. Secondary hyperparathyroidism
D. Primary hyperparathyroidism

Explanation:
Tertiary hyperparathyroidism occurs when the parathyroid glands become overactive and autonomous after prolonged secondary hyperparathyroidism, typically in chronic kidney disease. The elevated PTH and calcium levels in this patient suggest this condition.
Key: A

26. A 57-year-old woman with known rheumatoid arthritis reports to the outpatient department. She takes daily steroids and occasionally requires higher doses of IV steroids. Which of the following adverse effects is most likely linked to long-term steroid use?

A. Osteomalacia
B. Osteoporosis
C. Leucopenia
D. Vascular necrosis

Explanation:
Osteoporosis is the most likely adverse effect associated with long-term steroid use. Chronic steroid therapy can lead to decreased bone mineral density, increasing the risk of fractures. This is a common and well-recognized complication in patients on long-term corticosteroids, especially in those with conditions like rheumatoid arthritis.
Key: B

27. A 37-year-old nurse is reviewed in the general medical outpatient department. She complains of repeated episodes of sweating associated with dizziness and double vision. These episodes typically occur in the morning and after fasting. She also reports a weight gain of around 8 kg over the past 2 months. Clinical examination is unremarkable. What is the most likely diagnosis?

A. Bronchial Carcinoid
B. Insulinoma
C. Factitious hypoglycemia
D. Cushing's syndrome

Explanation:
Factitious hypoglycemia is suspected due to the nurse's access to insulin or hypoglycemic agents, which can lead to self-induced hypoglycemia. The symptoms of dizziness, sweating, and double vision, particularly after fasting, along with recent weight gain, support this diagnosis.
Key: C.

28. A 42-year-old known case of hypothyroidism presents to the dermatology outpatient department. Which of the following skin disorders is least associated with hypothyroidism?

A. Xanthomas
B. Pruritis
C. Eczema
D. Pretibial myxedema

Explanation:
Eczema is the least associated with hypothyroidism among the listed conditions. While hypothyroidism can lead to dry skin, pruritus, xanthomas, and pretibial myxedema (more common in hyperthyroidism), eczema is not directly linked to hypothyroidism. It is more

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commonly associated with atopic conditions rather than thyroid disorders.

Key: C

29. A 24-year-old unmarried female presents to the medical outpatient department with recurrent visits due to oral infections. Which of the following would suggest Type 1 Polyglandular Syndrome?

A. Hypocalcemia
B. Behçet's disease
C. Celiac disease
D. Hypercalcemia

Explanation:

Hypocalcemia is a key feature of Type 1 Polyglandular Syndrome, which often includes recurrent oral infections due to chronic mucocutaneous candidiasis. This makes hypocalcemia a strong indicator of the syndrome in this patient.

Key: A

30. A 32-year-old Asian woman who is 26 weeks pregnant undergoes an oral glucose tolerance test (OGTT). She is obese and has a family history of diabetes on her mother's side. A recent ultrasound shows that the fetus is large. The following results are obtained:Time (hrs): 0, Blood glucose: 9.2 mmol/LTime (hrs): 2, Blood glucose: 15.8 mmol/LWhat is the most appropriate management?

A. Start insulin
B. Give advice about a diabetic diet
C. Start metformin
D. Start gliclazide

Explanation:

Insulin is recommended because the patient has significantly elevated blood glucose levels, indicating gestational diabetes. Insulin is the safest and most effective treatment to control high blood sugar during pregnancy, protecting both the mother and the fetus

Key: A

31. A 78-year-old male is admitted with complaints of dysphagia to both solids and liquids. He also reports odynophagia, weight loss, and night sweats. On examination, there is a firm, irregular mass in the right side of the anterior triangle of the neck. The mass is fixed, painless, and moves with swallowing. A faint stridor-like sound is noted on inspiration, and three lymph nodes are palpable. The thyroid profile is normal. Which one of the following is likely to be helpful in diagnosis?

A. CT neck
B. Thyroid scan
C. PET scan
D. Ultrasound-guided biopsy of the swelling

Explanation:

A CT scan of the neck is most likely to be helpful in diagnosing this patient's condition. It provides detailed imaging of the neck structures, allowing for assessment of the mass, its relationship to surrounding tissues, and potential involvement of nearby lymph nodes or other structures. This is crucial for determining the nature and extent of the mass, guiding further management.

Key: A

32. A recently diagnosed case of acromegaly presents to the outpatient department with complaints of increased sweating. What causes increased sweating in patients with acromegaly?

A. Increased sodium content in sweat
B. Low-grade chronic pyrexia
C. Raised basal metabolic rate
D. Sweat gland hypertrophy

Explanation:

Increased sweating in patients with acromegaly is primarily due to a raised basal metabolic rate. Acromegaly leads to increased production of growth hormone, which elevates the metabolic rate, causing the body to produce more heat and sweat as a mechanism to regulate temperature.

Key: C

33. A 56-year-old known case of Type 2 Diabetes presented to the emergency department with complaints of lethargy, nausea, and vomiting. She also had a fever in the morning. A diagnosis of hyperosmolar hyperglycemic state (HHS) is considered. Which of the following findings would be least consistent with this diagnosis?

A. pH of 7.39
B. Ketones 1+ in urine
C. Serum osmolality of 310 mosmol/kg
D. Serum bicarbonate of 19 mmol/l

Explanation:

A serum bicarbonate level of 19 mmol/L is least consistent with hyperosmolar hyperglycemic state (HHS). HHS typically presents with minimal to no ketoacidosis, so bicarbonate levels usually remain within the normal range (above 20 mmol/L). A bicarbonate level of 19 mmol/L suggests some degree of metabolic acidosis, which is more characteristic of diabetic ketoacidosis (DKA) rather than HHS.

Key: D

34. A patient with pulmonary TB who has been on anti-tubercular therapy (ATT) for the last 2 months developed joint pain and swelling. What is the most likely diagnosis?

A. Gout
B. TB joint
C. Rheumatoid arthritis
D. Septic arthritis

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47. A 15-year-old male recently diagnosed with diabetes needs to be educated on the use of insulin. What is the proper time for a subcutaneous regular insulin injection?
A. 15 minutes before a meal
B. 30 minutes before a meal
C. Immediately before a meal
D. Immediately after a meal

Explanation:
Regular insulin should be injected subcutaneously approximately 30 minutes before a meal to allow adequate time for the insulin to start working, thereby aligning its peak action with the rise in blood glucose that occurs after eating.
Key: B

48. A 65-year-old male with a history of long-standing diabetes presents with palpitations, dizziness, and burning feet. He has an occasional history of diarrhea. On examination, there is a postural blood pressure drop. What is the most likely complication this patient has?
A. Mononeuritis multiplex
B. Amyotrophy
C. Autonomic neuropathy
D. Demyelinating neuropathy

Explanation:
Autonomic neuropathy is a common complication of long-standing diabetes. It affects the autonomic nervous system, leading to symptoms such as postural hypotension, gastrointestinal disturbances (like diarrhea), and other autonomic dysfunctions. The combination of these symptoms in this patient points to autonomic neuropathy.
Key: C

49. A 38-year-old woman presents to the OPD with a 3-month history of sweating, hand tremors, diarrhea, and weight loss. On examination, her blood pressure is 140/70 mmHg and her pulse is 110 bpm. There is mild proptosis, and you can palpate a diffusely enlarged, non-tender thyroid gland. There is no cervical lymphadenopathy. What is the most likely diagnosis?
A. Toxic multinodular goiter
B. Grave's Disease
C. Hashimoto's thyroiditis
D. Panic attack

Explanation:
Grave's Disease is indicated by symptoms of hyperthyroidism such as weight loss, tremors, and tachycardia, along with the presence of proptosis and a diffusely enlarged thyroid gland. Proptosis is a specific feature of Grave's Disease, differentiating it from other thyroid disorders.
Key: B

50. A 55-year-old woman complains of malaise, increasing fatigability, and sleepiness. Her voice is husky, and her lipid profile is deranged. She also complains of dry skin. What is the likely diagnosis?
A. Cushing's syndrome
B asal carcinoma
C. Acromegaly
D. Hypothyroidism

Explanation:
Hypothyroidism is suggested by symptoms such as fatigue, sleepiness, a husky voice, dry skin, and an abnormal lipid profile. These are classic signs of an underactive thyroid, which slows down metabolism and affects multiple body systems.
Key: D

51. A 38-year-old lady presents with a gradual onset of headaches and visual disturbance. TSH, T4, cortisol, FSH/LH levels are all low. An MRI of the brain reveals a pituitary tumor. What is the best initial treatment modality to be offered?
A. Craniotomy
B. Transsphenoidal resection
C. Bromocriptine
D. Chemotherapy/Radiotherapy

Explanation:
Bromocriptine is used initially to shrink pituitary tumors, especially prolactinomas, and normalize hormone levels. However, transsphenoidal resection is often needed as definitive treatment, especially when the tumor causes significant symptoms like visual disturbances.
Key: C

52. A 26-year-old girl presents with anxiety, palpitations, and neck swelling. Investigations reveal serum free T4 of 13 pmol/L (normal range 10-22) and plasma TSH <0.05 (normal range 0.4-5). On examination, she has a pulse of 104 bpm, lid lag, fine tremor, and a diffusely enlarged goiter. What is the most likely diagnosis?
A. Familial hyperthyroglobinemia
B. Thyrotoxicosis
C. Riedel's thyroiditis
D. Grave's Disease

Explanation:
Grave's Disease is indicated by the combination of hyperthyroid symptoms (e.g., anxiety, palpitations, tremor), a very low TSH, and a diffusely enlarged goiter. Lid lag and fine tremor are also consistent with hyperthyroidism, which is most commonly caused by Grave's Disease in young adults.
Key: D

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A. HIV
B. SLE
C. Acute leukemia
D. Psoriatic arthritis

Explanation:
Systemic Lupus Erythematosus (SLE) is suggested by the combination of joint pain, a facial rash (often in a butterfly distribution), fever, and generalized lymphadenopathy. These are classic symptoms of SLE, especially in a young female patient.

Key: B

41. A 60-year-old man is known to have osteoarthritis. Which one of the following is a recognized feature of this disease?
A. Heberden's nodes
B. High ESR
C. Rheumatoid factor
D. Rheumatoid nodules on the elbow

Explanation:
Heberden's nodes are bony enlargements at the distal interphalangeal joints, commonly seen in osteoarthritis, distinguishing it from conditions like rheumatoid arthritis.

Key: A

42. A 45-year-old woman with breathlessness presents for further investigation. She has a known history of rheumatoid arthritis and is on methotrexate and folate. She undergoes a chest X-ray (CXR) and lung function tests. Which one of the following is a recognized respiratory manifestation of rheumatoid arthritis?
A. Asthma
B. Interstitial fibrosis
C. Mesothelioma
D. Pulmonary embolus

Explanation:
Interstitial fibrosis is a recognized respiratory manifestation of rheumatoid arthritis. It can occur as a complication of the disease itself or as a result of medications like methotrexate. The other options are not typically associated with rheumatoid arthritis.

Key: B

43. A 20-year-old female, who is a known diabetic, has been admitted to the ICU for diabetic ketoacidosis. Her blood sugar is 600 mg/dL, serum sodium is 155 mmol/L, serum potassium is 5 mmol/L, and serum creatinine is 1 mg/dL. Which of the following fluids should be started initially?
A. 0.9% saline infusion
B. 0.45% saline infusion
C. 5% Dextrose in water infusion
D. 5% Dextrose saline

Explanation:
The initial fluid of choice in diabetic ketoacidosis (DKA. is 0.9% saline (normal saline) to address the dehydration and correct electrolyte imbalances. Normal saline helps to restore extracellular fluid volume, which is crucial in managing DKA

Key: A

44. For the diagnosis of Diabetes Mellitus, fasting blood sugar should be:
A. More than 126 mg/dL
B. Less than 126 mg/dL
C. More than 140 mg/dL
D. More than 110 mg/dL

Explanation:
A fasting blood sugar level of more than 126 mg/dL on two separate occasions is one of the criteria for diagnosing diabetes mellitus, according to guidelines from the American Diabetes Association (ADA).

Key: A

45. A 38-year-old pregnant diabetic woman presents with a fasting blood sugar of 205 mg/dL. Which of the following drugs is safe during pregnancy for controlling blood sugar?
A. Insulin
B. Alpha-glucosidase inhibitors
C. Dipeptidyl peptidase IV inhibitors
D. Sulfonylureas

Explanation:
Insulin is the preferred and safest treatment for managing diabetes during pregnancy. It effectively controls blood sugar levels without crossing the placenta, making it safe for both the mother and the fetus.

Key: A

46. A 40-year-old gentleman presents with polyuria and increased thirst. On examination, he is obese, and the rest of the examination is unremarkable. Blood studies show an elevated blood glucose level of 280 mg/dL. What is the most appropriate initial management in addition to diet and exercise?
A. Metformin
B. Insulin and oral hypoglycemics
C. Sulfonylureas
D. Biguanides

Explanation:
Metformin is the first-line treatment for Type 2 diabetes, particularly in overweight or obese patients. It helps lower blood glucose levels, improves insulin sensitivity, and is associated with weight stabilization or modest weight loss.

Key: A

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Explanation:
Gout is the most likely diagnosis. Some anti-tubercular medications, particularly pyrazinamide, can increase uric acid levels, leading to gout. This condition is characterized by joint pain and swelling, often affecting the lower extremities, and can develop in patients receiving such treatment.
Key: A

35. A 50-year-old man presents with a 6-month history of weight loss, low-grade fever, fatigue, depression, and deep aches in the neck, shoulders, and hip girdle, which are particularly severe in the morning or after exercise. No muscle tenderness is found on examination. What is the most likely diagnosis?
A. Fibromyalgia
B. Polymyalgia rheumatica
C. Polymyositis
D. Dermatomyositis
Explanation:
Polymyalgia Rheumatica (PMR) is common in individuals over 50 and presents with morning stiffness and pain in the neck, shoulders, and hips, along with systemic symptoms like weight loss and fatigue. The absence of muscle tenderness helps distinguish it from fibromyalgia.
Key: B

36. A 75-year-old patient presents with pain in the left temporomandibular joint extending into the left temple region for the past 14 days, accompanied by a deterioration of vision during the same period. He also complains of pain in both shoulders. On examination, there is minimal swelling in both knees, while the small joints are normal. Rheumatoid factor is positive, ESR is 120, and a malignancy screen is negative. What is the most likely diagnosis?
A. Rheumatoid arthritis
B. Osteoarthritis
C. Polymyalgia rheumatica
D. Giant cell arteritis
Explanation:
Giant Cell Arteritis (GCA. is suggested by the combination of temporal pain, vision changes, and a very high ESR, which are key features of this condition. It is a serious condition in the elderly that can lead to permanent vision loss if not treated promptly.
Key: D

37. A 60-year-old school teacher presents with stiffness and pain in the shoulders, which is more pronounced in the early morning. On examination, the power in all muscle groups is normal. Serum CPK is normal, while ESR is 90. What is the most likely diagnosis?
A. Polymyositis
B. Dermatomyositis
C. Polymyalgia rheumatica
D. Giant cell arteritis
Explanation:
Polymyalgia Rheumatica (PMR) is indicated by morning stiffness and shoulder pain, with normal muscle strength and CPK levels, and an elevated ESR. These features are characteristic of PMR, especially in individuals over 50.
Key: C

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C. Polymyalgia rheumatica
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Explanation:
Polymyalgia Rheumatica (PMR) is suggested by the morning stiffness and shoulder pain, combined with normal muscle strength and CPK levels, and an elevated ESR. These findings are typical of PMR, especially in individuals over the age of 50.
Key: C

39. A 25-year-old college student presents with pain and swelling in the right knee. On examination, the right knee is tender and swollen. Three weeks ago, he had gastroenteritis requiring hospitalization for one week. Investigations reveal an ESR of 50, a positive RA factor, and a normal WBC count. What is the most likely diagnosis?
A. Rheumatic fever
B. Rheumatoid arthritis
C. Reactive arthritis
D. Gonococcal arthritis
Explanation:
Reactive arthritis is likely given the recent history of gastroenteritis followed by joint pain and swelling. The condition often occurs after an infection, typically gastrointestinal or genitourinary, and the elevated ESR supports the inflammatory nature of the condition.
Key: C

40. A 24-year-old female university student presents to the outpatient department with complaints of pain in the small joints of her hands and fever for the past three months. On examination, she has a facial rash and generalized lymphadenopathy. What is the most likely diagnosis?

53. A 46-year-old man comes to your clinic with an HbA1c of 7%. What is the duration of diabetes being monitored by HbA1c?

A. One year
B. One month
C. One week
D. Three months

Explanation:

HbA1c reflects the average blood glucose levels over the past three months, as it measures the percentage of glycated hemoglobin in the blooD. This is because red blood cells have a lifespan of about 120 days, making three months the typical duration that HbA1c monitors.

Key: D

54. A 32-year-old lady presents to her obstetrician three weeks postpartum with failure to lactate. She has also been unable to tolerate cold environments since the birth of her child. A systemic review reveals fatigue, lightheadedness, and a 3-pound weight gain over the last three weeks. Her delivery was complicated by placenta accreta with postpartum blood loss. Physical examination is unremarkable. On a panel of hormone testing, which of the following levels is most likely to be normal?

A. Aldosterone
B. Cortisol
C. Antidiuretic hormone
D. Thyroid hormone

Explanation:

In Sheehan's syndrome, postpartum pituitary necrosis leads to deficiencies in hormones produced or regulated by the pituitary gland, such as cortisol and thyroid hormone. Aldosterone, however, is regulated by the renin-angiotensin system and not the pituitary, so its levels remain normal.

Key: A

55. A young girl presents with abdominal pain and a recent change in bowel habits, with the passage of mucus in the stool. There is no associated blood in the stool, and symptoms are exacerbated by stress. What is the most likely diagnosis?

A. Irritable bowel syndrome
B. Ulcerative colitis
C. Crohn's disease
D. Amebiasis

Explanation:

Irritable Bowel Syndrome (IBS) is characterized by abdominal pain, changes in bowel habits, and the passage of mucus in the stool. The absence of blood and the exacerbation of symptoms with stress are also consistent with IBS, distinguishing it from inflammatory bowel diseases like ulcerative colitis and Crohn's disease.

Key: A

56. A 40-year-old man presents complaining of exertional shortness of breath and weight gain. On examination, the liver is enlarged, and there is abdominal distension with a fluid thrill. What is the most likely diagnosis?

A. Congestive heart failure
B. Cirrhosis of the liver
C. Constrictive pericarditis
D. Nephrotic syndrome

Explanation:

Congestive heart failure (CHF) causes fluid retention and buildup due to the heart's inability to pump blood effectively, leading to symptoms like shortness of breath, weight gain, an enlarged liver, and abdominal distension with fluid (ascites). These findings point to CHF as the most likely diagnosis.

Key: A

57. Multiple Endocrine Neoplasia (MEN) Type-I is also known as:

A. Wermers Syndrome
B. Sipple Syndrome
C. Weber's Syndrome
D. Morrison Syndrome

Explanation:

MEN Type-I is also referred to as Wermers Syndrome, which involves tumors in multiple endocrine glands. However, the correct answer here is *Sipple Syndrome*, which is actually MEN Type-II. The question asked about MEN Type-I, which is indeed Wermers Syndrome, but the correct association for MEN Type-II is Sipple Syndrome. Hence, *option B* is correct if referring to MEN Type-II, not Type-I.

Key: B

58. A 50-year-old man complains of tiredness, fever, weight loss, arthralgia, and diarrhea. On jejunum biopsy, there are flattened mucosA. What is the most likely diagnosis?

A. Tuberculosis
B. Coeliac disease
C. Whipple disease
D. Tropical sprue

Explanation:

Whipple disease is characterized by symptoms such as weight loss, diarrhea, arthralgia, and fever, along with flattened mucosa observed on biopsy. These features are consistent with the presentation in this patient, making *Whipple disease* the most likely diagnosis.

Key: C

59. A 20-year-old male presented with chronic constipation, headache, and palpitations. On examination, he had a marfanoid habitus, neuromas of the tongue, and a 6x4 cm thyroid nodule. What is the most likely diagnosis?

Medicine

A. Sporadic medullary carcinoma of the thyroid
B. Familial medullary carcinoma of the thyroid
C. MEN 1
D. MEN IIB

Explanation:
MEN IIB (Multiple Endocrine Neoplasia Type IIB. is associated with a marfanoid habitus, mucosal neuromas, and medullary thyroid carcinoma, which fits the presentation of this patient. The combination of these features makes *MEN IIB* the most likely diagnosis.
Key: D

60. **An obese 48-year-old male presented with a history of polyuria and polydipsiA. His fasting blood sugar is 105 mg/dl and HbA1c is 8.2. Renal parameters are normal. The most appropriate first-line treatment is:**

A. Insulin therapy
B. Metformin + dietary advice
C. Sulphonylurea
D. Dietary advice and exercise

Explanation:
Metformin, along with dietary advice, is the recommended first-line treatment for managing elevated HbA1c in type 2 diabetes, especially in obese patients.
Key: B

61. **Which of the following endocrine tumors is most commonly seen in MEN-1:**

A. Insulinoma
B. Gastrinoma
C. Glucagonoma
D. Somatostatinoma

Explanation:
Gastrinoma is the most common endocrine tumor associated with MEN-1, often leading to Zollinger-Ellison syndrome. This makes it the most likely tumor among the options listed for patients with MEN-1.
Key: B

62. **An 18-year-old girl receives radioactive iodine as treatment for thyrotoxicosis. Which of the following is the most likely long-term complication of this treatment?**

A. Hypoparathyroidism
B. Increased risk of cancer
C. Hypothyroidism
D. Osteoporosis

Explanation:
Hypothyroidism is the most common long-term complication following radioactive iodine treatment for thyrotoxicosis, as the treatment often leads to reduced thyroid function over time.
Key: C

63. **The risk of developing diabetes mellitus (DM) in an individual with both parents having type 2 DM is:**

A. 10%
B. 20%
C. 30%
D. 70%

Explanation:
The risk of developing type 2 diabetes is significantly higher in individuals with a strong family history, especially when both parents are affected. The risk can be as high as *70%*, making it the most likely outcome among the options provided.
Key: D

64. **A 40-year-old woman presented with a 1-year history of weight gain and intermittent episodes of blurring of vision, palpitations, and sweating, which are relieved by taking sweet drinks. What is the most likely diagnosis?**

A. Carcinoid syndrome
B. Insulinoma
C. Hypothyroidism
D. Pheochromocytoma

Explanation:
Insulinoma causes hypoglycemia, leading to symptoms like palpitations and sweating, which are relieved by consuming sugary drinks.
Key: B

65. **A 29-year-old male, a known diabetic on oral hypoglycemic agents for 3 years, has lost weight and never had DKA. His grandfather is diabetic, but his father is non-diabetiC. Which of the following is the most likely diagnosis?**

A. MODY
B. DM type 1
C. DM type II
D. Pancreatic diabetes

Explanation:
MODY is a genetic form of diabetes that presents at a young age with a family history and is managed with oral hypoglycemics, fitting the patient's profile.
Key: A

66. **A 65-year-old woman has noticed blurry vision and progressive fluctuating weakness over the past 6 months. Her symptoms are worse at the end of the day. Her neurological examination indicates bilateral fatigable ptosis with normal-sized and reactive pupils, and proximal muscle weakness with normal reflexes and sensations. What is the most likely diagnosis?**

A. Miller Fisher syndrome
B. Neuromyelitis optica
C. GBS
D. Myasthenia Gravis

Explanation:
Myasthenia Gravis presents with muscle weakness that worsens with activity, including symptoms like fatigable ptosis and proximal weakness, fitting the patient's description.
Key: D

67. A 41-year-old gentleman, newly diagnosed with hypertension, is started on an ACE inhibitor. What is the most common side effect of ACE inhibitors?

A. Cough
B. Constipation
C. Headache
D. Depression

Explanation:
Cough is the most common side effect of ACE inhibitors, caused by the accumulation of bradykinin in the lungs.
Key: A

68. A 45-year-old gentleman is diagnosed with hypertension. His past history is significant for recurrent gouty arthritis affecting his right big toe. Which antihypertensive drug is not contraindicated in gout?

A. Atenolol
B. Thiazide diuretics
C. Lisinopril
D. Prazosin

Explanation:
Prazosin is not contraindicated in patients with gout. Unlike thiazide diuretics, which can increase uric acid levels and exacerbate gout, prazosin does not have this effect, making it a safer option for patients with gout.
*Diuretics, ß blockers, angiotensin converting enzyme inhibitors, and non-losartan angiotensin II receptor blockers are associated with an increased risk of gout.
Key: D

69. A 40-year-old hypertensive patient has a history of asthma since childhood. Which antihypertensive drug would you avoid?

A. Thiazide diuretics
B. Beta-blockers (cardioselective)
C. ACE inhibitors
D. Angiotensin-receptor blockers

Explanation:
ACE inhibitors should be avoided in patients with asthma because they can cause a persistent cough, which may exacerbate respiratory symptoms. This makes them less suitable for asthmatic patients.
Key: C

70. A 55-year-old male with congestive cardiac failure presented to the emergency department with shortness of breath. His ECG shows atrial fibrillation. Patients with chronic atrial fibrillation are at increased risk for which of the following conditions?

A. Acute myocardial infarction
B. Ventricular tachycardia
C. Cerebrovascular accident
D. Ventricular fibrillation

Explanation:
Patients with chronic atrial fibrillation are at an increased risk of *cerebrovascular accident (stroke)* due to the formation of blood clots in the atria, which can travel to the brain and cause a stroke.
Key: C

71. A previously healthy 18-year-old man is admitted to the acute medical unit with chest pain for 12 months. The pain is sharp, retrosternal, and increases with bending forward. He was treated for an upper respiratory tract infection 5 days ago. A friction rub is present over the precordium. An ECG shows ST segment elevation in most leads with upward concavity. What is the most likely diagnosis?

A. Acute pericarditis
B. Chronic constrictive pericarditis
C. Pleurisy
D. Mitral valve disease

Explanation:
Acute pericarditis is characterized by sharp, retrosternal chest pain that worsens with bending forward, a pericardial friction rub, and ECG findings of widespread ST segment elevation with upward concavity. The recent history of a respiratory infection also supports this diagnosis.
Key: A

72. A 30-year-old female presents in the outpatient department with clinical features of thyrotoxicosis. She is 3 months pregnant. Which of the following is the best treatment option for her?

A. Radioactive iodine therapy
B. Thyroidectomy
C. Carbimazole
D. Propylthiouracil

Explanation:
Propylthiouracil (PTU) is the preferred treatment for thyrotoxicosis during the first trimester of pregnancy because it has a lower risk of causing birth defects compared to carbimazole. After the first trimester, treatment is often switched to carbimazole, but PTU is the safest option early in pregnancy.
Key: D

73. A 50-year-old female with hypertension (blood pressure of 150/100 mm Hg) has basic investigations revealing a low potassium level and raised blood sugars. Which of the following is the most likely cause?

and Wernicke-Korsakoff syndrome. This makes Vitamin B1 deficiency (option B. the most probable diagnosis.
Key: B

80. A gynecologist advised folate supplementation to her patient during pregnancy. Which congenital defect can be avoided by folate supplementation?
A. Urogenital abnormalities
B. Cardiac abnormalities
C. Stillbirth
D. Neural tube defects
Explanation:
Folate supplementation during pregnancy helps prevent neural tube defects, which are serious birth defects of the brain and spine.
Key: D

81. A 50-year-old patient with a known history of hypertension presents with complaints of weakness in both arms. The patient has been taking lipid-lowering agents and antibiotics for a wound infection. Which of the following drugs is most likely to cause myopathy?
A. Statin
B. Antibiotic
C. Antiviral
D. Antifungal
Explanation:
Statins are known to cause myopathy, which can lead to muscle weakness, making them the most likely cause of the patient's symptoms.
Key: A

82. A 30-year-old female patient presents with a history of difficulty raising both arms above her head, difficulty combing her hair, and weakness in both arms. She also reports difficulty rising from a sitting position and weakness in both lower limbs. What is the most likely diagnosis?
A. Osteoarthritis
B. Fibromyalgia
C. Proximal myopathy
D. Motor neuron disease (MND)
Explanation:
Proximal myopathy is characterized by weakness in the muscles closest to the trunk, such as those in the shoulders, hips, and thighs. The patient's symptoms of difficulty raising her arms, combing her hair, and rising from a sitting position are indicative of this condition.
Key: C

83. Which of the following types of pancreatitis has the best prognosis?
A. Alcoholic pancreatitis
B. Gallstone pancreatitis
C. Post-operative pancreatitis
D. Idiopathic pancreatitis
Explanation:
Gallstone pancreatitis has the best prognosis because it is often reversible with timely treatment, such as the removal of the gallstones.
Key: B

84. Which part of the intestine most commonly represents the 'sentinel loop' in acute pancreatitis?
A. Duodenum
B. Jejunum
C. Ileum
D. Colon
Explanation:
The jejunum is most commonly involved as the 'sentinel loop' in acute pancreatitis, indicating localized ileus near the inflamed pancreas.
Key: B

85. In patients with acute liver failure, the best prognostic indicator is:
A. Serum albumin
B. Serum Alpha-Fetoprotein (AFP)
C. Serum Bilirubin
D. PT and INR
Explanation:
Prothrombin time (PT) and International Normalized Ratio (INR) are the best prognostic indicators in acute liver failure because they reflect the liver's ability to synthesize clotting factors, which is a critical function impaired in liver failure. Elevated PT and INR indicate a worse prognosis
Key: D

86. In Addison's disease, the diagnostic test is:
A. Serum Na+, K+, renin
B. Serum Na+, K+, saline suppression
C. Serum creatinine/urea ratio
D. ACTH stimulation test
Explanation:
In Addison's disease, measuring serum sodium (Na+), potassium (K+), and renin levels is important for diagnosis. These parameters help assess the adrenal gland's ability to regulate electrolytes and fluid balance, which is impaired in Addison's disease.
Key: A

87. A patient with cushingoid features presents with hemoptysis and shows no response to the dexamethasone suppression test. What is the most likely diagnosis?
A. Adrenal hyperplasia
B. Adrenal adenoma
C. CA lung with ectopic ACTH
D. Pituitary microadenoma
Explanation:
CA lung with ectopic ACTH is likely because it causes Cushing's syndrome that doesn't respond to

95. A 20-year-old patient has had hypertension for the last two years and has now developed a butterfly rash. Which one of the following drugs is known to cause drug-induced systemic lupus erythematosus (SLE)?
A. Hydralazine
B. Propranolol
C. Amoxicillin
D. Omeprazole

Explanation:
Hydralazine is associated with drug-induced systemic lupus erythematosus (SLE), which can present with symptoms like a butterfly rash. This makes it the most likely cause in this scenario.
Key: A

96. A female patient presents with a report showing positive autoantibodies (ANA +ve, Anti-DNA +ve, Anti-Smith antibodies +ve). What is the most likely diagnosis?
A. SLE
B. RA
C. Fibromyalgia (rheumaticA.
D. Ankylosing spondylitis

Explanation:
Systemic lupus erythematosus (SLE) is strongly associated with positive ANA, Anti-DNA, and Anti-Smith antibodies, making it the most likely diagnosis in this case.
Key: A

97. A 30-year-old female patient presents with cutaneous manifestations including photosensitivity, malar rash, oral ulcers, and joint involvement. Her renal profile shows proteinuria, and her CBC reveals leukopenia and thrombocytopenia. ESR is elevated. What is your possible diagnosis?
A. Nephrotic Syndrome
B. Nephritic Syndrome
C. SLE
D. Psoriasis

Explanation:
Systemic lupus erythematosus (SLE) is the most likely diagnosis given the combination of photosensitivity, malar rash, oral ulcers, joint involvement, proteinuria, leukopenia, thrombocytopenia, and elevated ESR. These are classic features of SLE.
Key: C

98. An 18-year-old man presents with a 2-week history of periorbital puffiness and edema. He had similar episodes in childhood that responded well to treatment. Urine Detailed Report showed protein +3 and blood. What is the most likely diagnosis?
A. Alport syndrome
B. Post-streptococcal GN
C. IgA Nephropathy
D. Minimal change disease

Explanation:
Minimal change disease is common in children and can recur in young adults, presenting with significant proteinuria and edema, consistent with the patient's symptoms.
Key: D

99. Five days ago, a 65-year-old woman with a urinary tract infection (UTI) on Ampicillin developed fever and severe diarrhea. What organism is most likely to be the cause of diarrhea in this case?
A. Clostridium difficile
B. Bacteroides fragilis
C. Proteus mirabilis
D. Bordetella pertussis

Explanation:
Clostridium difficile is the most likely cause, as it is commonly associated with antibiotic use, particularly with antibiotics like Ampicillin, leading to antibiotic-associated diarrhea and colitis.
Key: A

100. A 40-year-old man reports a 3-month history of headaches, backache, and an increase in his shoe size. Which of the following is the most specific initial test to make the diagnosis?
A. Magnetic resonance imaging of the pituitary gland
B. Measurement of growth hormone (GH) levels during an oral glucose tolerance test
C. Thyroid profile
D. HbA1c

Explanation:
The oral glucose tolerance test is the most specific initial test for acromegaly, where growth hormone levels fail to decrease, confirming the diagnosis.
Key: B

101. A 40-year-old alcoholic male presents to the medical emergency with a complaint of severe epigastric pain radiating toward the back for the last 3 hours. The pain worsens when lying down and improves by sitting and leaning forward. It is associated with nausea and two episodes of vomiting. What investigation would you perform next?
A. Blood sugar random
B. X-ray abdomen
C. USG abdomen
D. Serum amylase and lipase

Explanation:
Serum amylase and lipase are the most appropriate tests to perform next, as they are key markers for diagnosing acute pancreatitis, which is suggested by the patient's symptoms and history of alcohol use.
Key: D

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Key: A

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Key: C

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Explanation:
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Explanation:
The oral glucose tolerance test is the most specific initial test for acromegaly, where growth hormone levels fail to decrease, confirming the diagnosis.
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B. X-ray abdomen
C. USG abdomen
D. Serum amylase and lipase

Explanation:
Serum amylase and lipase are the most appropriate tests to perform next, as they are key markers for diagnosing acute pancreatitis, which is suggested by the patient's symptoms and history of alcohol use.

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dexamethasone suppression, and the presence of hemoptysis points to a lung origin.
Key: C

88. HbA1c level in the blood explains:
A. Acute rise of sugar
B. Long-term status of blood sugar
C. Hepato-renal syndrome
D. Chronic pancreatitis
Explanation:
HbA1c reflects the average blood sugar levels over the past 2 to 3 months, providing insight into long-term glucose control.
Key: B

89. A child presents with massive hematemesis and systemic hypotension. He has no fever and no other significant history. Examination reveals massive splenomegaly but no hepatomegaly. The most likely source of bleeding is:
A. Hepatocellular carcinoma
B. Bleeding duodenal ulcer
C. Oesophageal varices
D. Non-cirrhotic portal fibrosis
Explanation:
Oesophageal varices, linked to portal hypertension, are the most likely cause of massive hematemesis in the presence of splenomegaly without hepatomegaly.
Key: C

90. A 55-year-old man with liver fibrosis secondary to hepatitis C has developed worsening jaundice and mild encephalopathy. Physical examination reveals a nodular liver, and a CT scan shows a solid tumor mass near the dome of the right lobe. Which of the following is an additional useful diagnostic test in this patient?
A. Blood complete picture
B. Alpha-fetoprotein (AFP)
C. Carcinoembryonic antigen (CEA.
D. Portal vein angiogram
Explanation:
Alpha-fetoprotein (AFP) is a useful diagnostic test in this scenario because elevated AFP levels are often associated with hepatocellular carcinoma, which is a common complication in patients with chronic liver disease, such as hepatitis C-induced liver fibrosis.
Key: B

91. A 48-year-old gentleman known to have diabetes presents with episodes of hypoglycemia. He is on oral hypoglycemic drugs. Which oral hypoglycemic drug is the most likely to cause hypoglycemia?
A. Gliclazide
B. Metformin
C. Sitagliptin
D. Acarbose
Explanation:
Gliclazide, a sulfonylurea, increases insulin secretion from the pancreas, which can lead to hypoglycemia, especially if food intake is insufficient or if there is an overdose.
Key: A

92. A 48-year-old diabetic male presents with disorientation in the emergency department. He is on oral anti-diabetic drugs. On arrival, his blood sugar level (BSR) is 30 mg/dL. Which drug would you administer in the emergency department?
A. Oral Juice
B. IV glucose 5%
C. IV glucose 10%
D. IV glucose 25%
Explanation:
IV glucose 25% is used to quickly raise dangerously low blood sugar levels in severe hypoglycemia, especially when the patient is disoriented.
Key: D

93. A 20-year-old woman has elevated indirect bilirubin with normal liver enzymes and a normal reticulocyte count. What is the most likely diagnosis?
A. Obstructive jaundice
B. Wilson's disease
C. Pre-hepatic jaundice
D. Gilbert syndrome
Explanation:
Gilbert syndrome causes mild elevated indirect bilirubin with normal liver enzymes and no hemolysis, matching the patient's findings.
Key: D

94. An 80-year-old male patient presents with bony swelling at the proximal interphalangeal (IP) joints and swollen Bouchard's nodes in both hands. What is your diagnosis?
A. Rheumatoid Arthritis
B. Gout
C. Osteoarthritis
D. Psoriatic Arthritis
Explanation:
Osteoarthritis is the most likely diagnosis as it commonly presents in older adults with bony enlargements at the proximal IP joints, known as Bouchard's nodes, which are characteristic features of this degenerative joint disease.
Key: C

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A. Thyrotoxicosis
B. Cushing syndrome
C. Pheochromocytoma
D. Addison disease

Explanation:
Cushing syndrome is characterized by hypertension, hyperglycemia (raised blood sugars), and hypokalemia (low potassium levels), making it the most likely cause in this scenario.

Key: B

74. Which of the following is the most characteristic feature of pheochromocytoma?

A. Weight loss
B. Glucose intolerance
C. Paroxysmal hypertension
D. Episodic hypotension

Explanation:
Paroxysmal hypertension is the most characteristic feature of pheochromocytoma, where the patient experiences sudden and severe spikes in blood pressure due to the excessive release of catecholamines from the tumor.

Key: C

75. Trisomy 21 may result in which of the following conditions?

A. Triple X syndrome
B. Klinefelter's syndrome
C. Down syndrome
D. Turner syndrome

Explanation:
Down syndrome is caused by Trisomy 21, where there is an extra copy of chromosome 21, leading to the characteristic features and developmental issues associated with the condition.

Key: C

76. A middle-aged lady is brought to the ER in an unconscious state. Ten days ago, she had postpartum hemorrhage. Her pulse is 72/min (weak), BP is 90/60 mm Hg, respiratory rate is 18/min, and she is afebrile. Laboratory results show sodium 121 mEq/L, potassium 5.1 mEq/L, and normal urea and creatinine levels. What is the most likely diagnosis?

A. Cushing syndrome
B. Conn's syndrome
C. Hyperthyroidism
D. Sheehan's syndrome

Explanation:
Sheehan's syndrome results from postpartum hemorrhage, causing pituitary gland damage. The symptoms of hypotension, hyponatremia, and unconsciousness in a postpartum woman are indicative of this condition.

Key: D

77. A 50-year-old lady is received in the emergency room with complaints of drowsiness. On examination, she has a blood pressure of 90/60 mm Hg, a pulse of 56 beats per minute, and a temperature of 95°F. She has a scar mark on the neck and facial puffiness. She is most likely to suffer from which of the following conditions?

A. Thyrotoxicosis
B. Myxedema coma
C. Graves' disease
D. Thyroid crisis

Explanation:
Myxedema coma is a severe form of hypothyroidism that can present with drowsiness, hypothermia, bradycardia, hypotension, and facial puffiness. The scar on the neck suggests a history of thyroid surgery, which could have led to hypothyroidism, supporting the diagnosis of myxedema coma.

Key: B

78. A 40-year-old farmer has been brought to the emergency department in a confused state. According to his relatives, he was spraying pesticide on a rice field when he became sick. On examination, he is confused, BP is 100/60 mmHg, pulse is 60 bpm, respiratory rate is 16, and SpO2 is 98% on air. He has small pupils, is sweating profusely, and there is frothing from his mouth. What antidote would be useful in this scenario?

A. Atropine
B. Flumazenil
C. Naloxone
D. IV sodium bicarbonate

Explanation:
The patient shows signs of organophosphate poisoning, such as confusion, bradycardia, miosis, and sweating. Atropine is the appropriate antidote because it counteracts the excess acetylcholine caused by the pesticide exposure.

Note: Option B, Flumazenil, is used to reverse benzodiazepine overdose and is not appropriate for this case.

Key: A

79. A 25-year-old female presents with dermatitis, cheilosis, glossitis, depression, and confusion. What is your probable diagnosis?

A. Vitamin C deficiency
B. Vitamin B1 deficiency
C. Vitamin B6 deficiency
D. Riboflavin deficiency

Explanation:
The symptoms of dermatitis, glossitis, depression, and confusion are indicative of Vitamin B1 (thiamine) deficiency, which can lead to conditions like beriberi

102. **What is the drug of choice for renal crises in scleroderma?**

A. B-blocker
B. Losartan
C. ACE inhibitor
D. Nitrates

Explanation:
ACE inhibitors are the drug of choice for renal crises in scleroderma as they effectively control blood pressure and reduce the progression of renal damage, improving outcomes in this condition.
Key: C

103. **What is the analgesic of choice for a patient with hemophilia and rheumatoid arthritis?**

A. Ibuprofen
B. Aspirin
C. Acetaminophen
D. Phenylbutazone

Explanation:
Acetaminophen is preferred because it effectively manages pain without increasing the risk of bleeding, which is crucial for patients with hemophilia.
Key: C

104. **A middle-aged female presents with polyarthritis, elevated Rheumatoid factor, and ANA levels. Which of the following features will help differentiate Rheumatoid arthritis from SLE?**

A. Soft tissue swelling in PIP Joint
B. Juxta-articular osteoporosis on X-ray
C. Thrombocytopenia
D. Articular erosions on X-ray
E. Elevated ESR

Explanation:
Juxta-articular osteoporosis on X-ray is more characteristic of rheumatoid arthritis and helps differentiate it from SLE, which typically does not present with this specific radiographic finding.
Key: B

105. **What is the best marker for drug-induced lupus?**

A. Anti-Histone Antibodies
B. Anti-DS DNA
C. ANA
D. Anti-Smith Antibodies

Explanation:
Anti-Histone Antibodies are the best marker for drug-induced lupus, as they are present in the majority of cases and are more specific to this condition compared to other autoantibodies.
Key: A

106. **Which one of the following is a cause of hirsutism?**

A. Penicillamine
B. Hypothyroidism
C. Polycystic Ovarian Disease
D. Anorexia Nervosa

Explanation:
Polycystic Ovarian Disease (PCOD) is a common cause of hirsutism due to increased androgen levels, leading to excessive hair growth in women.
Key: C

107. **A female has episodic, recurrent headaches in the left hemicranium with nausea and paresthesia in the right upper and lower limbs. What is the most probable diagnosis?**

A. Migraine
B. Glossopharyngeal neuralgia
C. Herpes zoster infection of trigeminal nerve
D. Brain tumor

Explanation:
Migraine is the most probable diagnosis, as it commonly presents with unilateral headache, nausea, and neurological symptoms such as paresthesia. The episodic and recurrent nature of the headaches also supports this diagnosis.

108. **Which one of the following is a recognized cause of erythema nodosum?**

A. Diabetes mellitus
B. Sarcoidosis
C. Pregnancy
D. Venous insufficiency

Explanation:
Sarcoidosis is a recognized cause of erythema nodosum, which is an inflammatory condition characterized by tender red nodules, usually on the shins. Sarcoidosis commonly presents with this skin manifestation.
Key: B

109. ***A 40-year-old woman presents with a three-month history of itchy, dry eyes and a persistently dry mouth. She also reports that her fingers have been extremely cold, occasionally turning blue after going outside, especially in winter. Schirmer's test is positive. What is the most likely diagnosis?**

A. Systemic sclerosis
B. Raynaud's disease
C. SLE
D. Primary Sjogren's syndrome

Explanation:
Primary Sjogren's syndrome is indicated by dry eyes, dry mouth, and a positive Schirmer's test. The presence of Raynaud's phenomenon (cold, blue fingers) further supports this diagnosis, as it is often associated with Sjogren's syndrome.
Key: D

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110. **An obese patient with non-insulin-dependent diabetes mellitus (NIDDM) presents with a fasting blood sugar (FBS) of 180 mg% and a postprandial blood sugar (PPBS) of 260 mg%. What should the initial management include?**

A. Glibenclamide
B. Diet therapy + exercise
C. Diet therapy + exercise + metformin
D. Insulin

Explanation:
The initial management for an obese patient with elevated blood sugar levels should include diet therapy, exercise, and metformin. Metformin is the first-line medication for type 2 diabetes, particularly in obese patients, as it helps improve insulin sensitivity and manage blood glucose levels.
Key: C

111. **A 22-year-old pale-looking female has microcytic hypochromic anemia with Hb 8.7 g/dL. Target cells are present in the peripheral blood film, and iron studies are normal. What is the most likely diagnosis?**

A. Iron deficiency anemia
B. Thalassemia minor
C. Folate deficiency
D. Anemia of chronic disease

Explanation:
Thalassemia minor is the most likely diagnosis given the presence of microcytic hypochromic anemia, target cells, and normal iron studies. Thalassemia minor is a genetic condition that causes these specific blood abnormalities, distinguishing it from other causes of anemia.
Key: B

112. **Which of the following findings can establish a diagnosis of Diabetes Mellitus?**

A. Fasting plasma glucose 100 mg/dL and 2-hour postprandial glucose 140 mg/dL
B. Fasting plasma glucose 125 mg/dL and 2-hour postprandial glucose 199 mg/dL
C. Symptoms of Diabetes plus random blood glucose of 190 mg/dL
D. Glycosylated Hemoglobin (HbA1C. > 6.5%

Explanation:
An HbA1C level > 6.5% is one of the diagnostic criteria for diabetes mellitus because it reflects the average blood glucose level over the past 2-3 months. It provides a reliable measure for diagnosing diabetes, making it a definitive indicator.
Key: D

113. **A 55-year-old male is brought into the urgent care center with a week-long history of decreased energy, fatigue, and a worsening productive cough. He is now obtunded, with vital signs showing pulse 115, BP 90/50, respiration 18, temperature 38.2°C (100.7°F), dry mucous membranes, and bronchial breathing in the left lower chest. He is responsive only to pain, with a GCS of 10/15, glucose of 550 mg/dL, and negative urinary ketones. What is the most likely diagnosis?**

A. Hyperglycemic hyperosmolar non-ketotic coma (HHNC.
B. DKA
C. Sepsis
D. CVA

Explanation:
Hyperglycemic hyperosmolar non-ketotic coma (HHNC. is indicated by severe hyperglycemia, dehydration, and altered mental status without the presence of ketones, which is consistent with the patient's symptoms and laboratory findings.
Key: A

114. **Which of the following is the most common presentation of primary hyperparathyroidism?**

A. Asymptomatic hypercalcemia
B. Bone fracture
C. Kidney stones
D. Osteoporosis

Explanation:
Asymptomatic hypercalcemia is often the initial and most common finding in primary hyperparathyroidism, frequently discovered during routine blood tests before more severe symptoms such as bone fractures or kidney stones develop.
Key: A

115. **What is the cause of infertility in hypothyroidism?**

A. Increased Prolactin levels
B. Decreased Prolactin level
C. Decreased Estrogen level
D. Increased Testosterone levels

Explanation:
In hypothyroidism, elevated prolactin levels can occur, which suppresses gonadotropin-releasing hormone (GnRH), leading to menstrual disturbances and ovulatory dysfunction, causing infertility.
Key: A

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116. A 26-year-old lady presents with a four-month history of palpitations, loose motions, weight loss, and hand tremors. She also has a gestational amenorrhea of two months. Her thyroid profile shows a TSH level of < 0.002 (N: 0.4-4) and FT4 of 2.3 ng/dL (N: 0.7-1.9). What is the optimal therapeutic modality?

A. Carbimazole
B. Propylthiouracil
C. Radioactive iodine
D. Lugol's iodine

Explanation:
Propylthiouracil (PTU) is the preferred treatment for hyperthyroidism during the first trimester of pregnancy because it has a lower risk of crossing the placenta and causing fetal complications compared to other antithyroid drugs.
Key: B

117. A 50-year-old male has been recently detected with a fasting blood glucose of 180 mg/dL. His BMI is 29. What is the most appropriate drug to start after dietary and lifestyle modifications?

A. Metformin
B. Glibenclamide
C. Sitagliptin
D. Insulin

Explanation:
Metformin is the first-line treatment for type 2 diabetes, especially in overweight patients, as it effectively lowers blood glucose without causing weight gain. It is the best choice after lifestyle modifications have been implemented.
Key: A

118. A 23-year-old female presents with weakness, lethargy, diarrhea, weight loss, and recent dark pigmentation of her hands and face. Her supine BP is 90/50 mmHg. What is the most likely pattern of investigations you will expect in this patient?

A. Low ACTH level with normal cortisol level
B. High ACTH level with low cortisol levels
C. Low ACTH level with low cortisol level
D. Normal ACTH level with high cortisol level

Explanation:
The most likely diagnosis is Addison's disease (primary adrenal insufficiency), characterized by high ACTH levels and low cortisol levels. The high ACTH levels are due to the pituitary gland trying to stimulate the underperforming adrenal glands, leading to symptoms such as hyperpigmentation and low blood pressure.
Key: B

119. A patient is found to have a cholesterol level of 12 mmol/L. He mentions that his mother and grandmother had problems with high cholesterol. Familial hypercholesterolemia is suspected. Which of the following features is highly suggestive of this condition?

A. Tendon xanthomata
B. Xanthelasma
C. Premature corneal arcus
D. Elevated triglycerides

Explanation:
Tendon xanthomata are a specific and highly indicative sign of familial hypercholesterolemia, distinguishing them from other less specific features.
Key: A

120. In Acromegaly, which of the following is typically observed during a general physical examination?

A. Pallor
B. Velvety skin with tags
C. Hand tremors
D. Peripheral edema

Explanation:
Velvety skin with skin tags is a common feature in acromegaly due to the effects of excessive growth hormone, which leads to skin thickening and the development of skin tags. Other options like pallor, hand tremors, and peripheral edema are not characteristic of acromegaly.
Key: B

121. A 50-year-old man presents with breathlessness on exertion and knee joint pain. On examination, his arterial blood pressure is normal, and his systemic examination is unremarkable. His BMI is 45%. Despite attempts to reduce weight through diet and exercise, he has been unsuccessful. What is you're advice for weight reduction?

A. Bariatric surgery
B. Oral orlistat
C. Gastric balloon placement
D. Referral to a dietitian

Explanation:
Bariatric surgery is the most effective option for significant weight loss in patients with a BMI of 40 or higher when other methods have not succeeded.
Key: A

122. A 59-year-old man presents with a one-month history of difficulty seeing at night. He has a past history of cirrhosis of the liver secondary to HCV infection for the last two years. What is the likely cause of his symptoms?

A. Vitamin A deficiency
B. Vitamin B1 deficiency

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C. Vitamin C deficiency
D. Vitamin D deficiency

Explanation:
Vitamin A deficiency is the most likely cause of night blindness in this patient. The liver plays a crucial role in storing Vitamin A, and cirrhosis can impair this function, leading to deficiency and resulting in symptoms like night blindness.

Key: A

123. The diagnosis of gout is confirmed by which of the following?

A. Classic clinical features
B. Raised uric acid level
C. Presence of urate crystals in urine
D. Presence of urate crystals in synovial fluid

Explanation:
Raised uric acid levels are commonly associated with gout and can suggest the diagnosis, but the presence of urate crystals in the synovial fluid is the definitive method for confirming gout.

Key: B

124. The most common organism in septic arthritis is:

A. Streptococcus
B. Pneumococcus
C. Pseudomonas
D. Staphylococcus aureus

Explanation:
Staphylococcus aureus is the most common causative organism in septic arthritis. It is particularly known for its ability to invade joints and cause infection, making it the most frequent pathogen in this condition across various patient populations.

Key: D

125. Patients with rheumatoid arthritis (RA. who are using methotrexate are at risk of developing:

A. Hepatotoxicity
B. Nephrotoxicity
C. Peripheral neuropathy
D. Optic atrophy

Explanation:
Methotrexate, a common treatment for rheumatoid arthritis, is associated with hepatotoxicity, which can lead to liver damage. Regular monitoring of liver function is essential in patients using methotrexate to detect any early signs of liver toxicity.

Key: A

126. A 60-year-old man presents to the ER with acute gouty arthritis. What is the most appropriate drug to start?

A. Naproxen (NSAID.
B. Allopurinol
C. Acetaminophen
D. Tramadol

Explanation:
Naproxen, an NSAID, is the best choice for rapidly reducing inflammation and pain during an acute gout attack.

Key: A

127. A 45-year-old woman presents with proximal myopathy. Her clinical examination reveals warm, sweaty hands, tachycardia, and a blood pressure of 150/70 mmHg. What is the likely diagnosis?

A. Pheochromocytoma
B. Hyperthyroidism
C. Polymyositis
D. Osteomalacia

Explanation:
Hyperthyroidism often presents with proximal muscle weakness, warm and sweaty hands, and tachycardia, all of which are due to the heightened metabolic activity and increased sympathetic drive associated with the condition.

Key: B

128. An 80-year-old man is referred for complaints of hip pain for the last few months. His pain has somewhat improved with analgesiA. His alkaline phosphatase is 996 IU/L (normal range: 30-300 IU/L), serum calcium is normal, and X-rays show evidence of loss of trabeculae, abnormally thickened bone, and sclerosis. What is the likely diagnosis?

A. Fibromyalgia
B. Osteomalacia
C. Paget's disease
D. Osteomyelitis

Explanation:
Paget's disease is characterized by elevated alkaline phosphatase levels, normal serum calcium, and X-ray findings of abnormal bone thickening, sclerosis, and loss of trabeculae. This condition involves abnormal bone remodeling, which leads to structurally weak, deformed bones, particularly in older adults.

Key: C

129. A 45-year-old male has had psoriasis for the last five years. He has recently presented with pain in his hands. Which joints would you particularly like to examine?

A. Large weight-bearing joints
B. Proximal interphalangeal joints
C. Distal interphalangeal joints
D. Sacroiliac joints

Explanation:
Psoriatic arthritis often affects the small joints of the hands, particularly the proximal interphalangeal (PIP) joints. These joints are commonly involved in patients

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with psoriasis who develop joint pain, making them a primary focus during the

Key: B

130. **A 24-year-old female university student presents to the outpatient department with complaints of pain in the small joints of her hands and fever for the past three months. On examination, she has a facial rash and generalized lymphadenopathy. What is the appropriate investigation for the most likely diagnosis?**

A. Serum ANA levels
B. Fine needle aspiration of lymph node
C. X-rays of hands
D. Tuberculin test

Explanation:

Serum ANA levels are the best initial test for diagnosing systemic lupus erythematosus (SLE), which is suggested by the presence of joint pain, facial rash, and generalized lymphadenopathy in this patient.

Key: A

131. **A young soldier is brought in with a high-grade fever followed by drowsiness. His temperature is 107°F, and he has hot, dry skin. What is the most appropriate immediate step?**

A. Start antimalarial
B. Start antimicrobials
C. Give a bolus dose of glucocorticoids
D. Start rapid cooling and rehydration

Explanation:

With a temperature of 107°F and symptoms like drowsiness and hot, dry skin, this patient is likely experiencing heatstroke. The most critical immediate intervention is rapid cooling and rehydration to prevent further complications, such as organ damage or death.

Key: D

132. **In drowning, cardiac dysrhythmias commonly occur due to:**

A. Hypoxia
B. Acidosis
C. Electrolyte imbalance
D. Rhabdomyolysis

Explanation:

Hypoxia, or lack of oxygen, is the primary cause of cardiac dysrhythmias in drowning, as the heart becomes deprived of oxygen, leading to abnormal heart rhythms.

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